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REMARKS

Applicants respectfully request that the above application be reconsidered. Claims 1-32 are currently pending; Claims 1-2 and 5-8 have been rejected; Claims 3-4 have been objected to; Claims 9-15 are considered allowable; Claims 16-32 have been withdrawn from further consideration by the Examiner pursuant to 37 CFR 1.142(b). See enclosed Office Action at pages 1-2.

Applicants acknowledge that the Examiner has withdrawn Claims 16-32 from further consideration pursuant to his prior restriction requirement. See page 2 of the Office Action. At this time, Applicants will not further contest this restriction requirement beyond what Applicants stated in their prior response of December 17, 2002.

A. Response to Rejection of Claims 1-2 and 5 under 35 USC 102(b) as Anticipated by Sandys, Hauser et al or Mahawili

At pages 2-3 of the Office Action, the Examiner has rejected Claims 1-2 and 5 under 35 USC 102(b) as anticipated by U.S. Patent 4,807,562 (Sandys), U.S. Patent 4,142,004 (Hauser et al) or U.S. Patent 4,834,022 (Mahawili):

The Examiner says that Sandys (referring to Figs. 1 and 5 and col. 4, lines 12-15), Hauser et al (referring to Fig. 1) and Mahawili (referring to Fig. 1) all disclose gas distributors comprising a gas head with a plurality of gas outlets spaced along a peripheral surface, and a gas deflecting means proximate to the gas outlets, such that the gas exiting the gas outlets is deflected in a generally centripetal path. In these prior art gas distributors, the Examiner says that the gas from each outlet is deflected by a separate surface, and these plural deflecting surfaces can be considered to inherently be plural deflecting surfaces. Alternatively, the Examiner says it would have been *prima facie* obvious to construct the deflecting surfaces of these prior art gas distributors from a plurality of assembled parts (citing *In re Lockhart*, 90 USPQ 214). Regarding Claim 5, Examiner notes that Hauser and Mahawili (referring to the abstract) teach that their reactor is cylindrical, and that Sandys (referring to Figs. 5B and 10) also discloses a cylindrical embodiment.

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Applicants respectfully traverse this rejection. Contrary to what the Examiner suggests, Sandys, Hauser et al and Mahawili do not teach "directing the gas stream exiting each gas outlet in at least a generally centripetal path" as in Claims 1-2 and 5. In Sandys and as stated at col. 4, lines 12-15, the gas stream exiting from delivery tubes 17 "is confined and deflected downward by the hollow cap 16." Sandys in no way teaches or suggests that its gas stream is directed in a generally centripetal path. In Hauser et al, and as particularly shown in Fig. 1, the gas stream exiting gas ring 46 through apertures 48 is directed outwardly towards U-shaped end 42, then upwardly and then inwardly towards central region 56 where it exits. Again, Hauser et al in no way teaches or suggests that its gas stream is directed in a generally centripetal path. In Mahawili, and as shown particularly in Fig. 1, the gas stream flows outwardly from orifices 48b-1 through 48b-4, is directed downwardly from orifices 48b-1 and 48b-2 or upwardly from orifices 48b-3 and 48b-4, and then out through the gap between 4a and 29e and into exhaust chamber 24. Again, Mahawili in no way teaches or suggests that its gas stream is directed in a generally centripetal path.

While the Examiner says the deflecting surfaces of Sandys, Hauser et al and Mahawili can be considered to be "inherently plural deflecting" surfaces, or that a plurality of deflecting surfaces would be *prima facie* obvious, Applicants submit that that is beside the point. The fact remains that none of these references teach or suggest directing the gas stream in a generally centripetal path as in Claims 1-2 and 5. Indeed, Claim 2 is further distinguishable over these references in reciting that each deflector directs the gas stream into a curved generally centripetal downward path.

For the foregoing reasons, Applicants submit that Claims 1-2 and 5 are novel and unobvious over Sandys, Hauser et al or Mahawili.

B. Response to Rejection of Claims 1 and 5 under 35 USC 102(a) as Anticipated by Choi et al

At page 3 of the Office Action, the Examiner has rejected Claims 1 and 5 under 35 USC 102(b) as anticipated by U.S. Patent 6,183,563 (Choi et al):

The Examiner says that Choi et al (referring to Figs. 5 and 6) discloses a gas distributor comprising a gas head with a plurality of gas outlets spaced along a

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peripheral surface, and a gas deflecting means proximate to the gas outlets, such that the gas exiting the gas outlets is inherently deflected in a generally centripetal path. In Choi et al's gas distributor, the Examiner says that the gas from each outlet is deflected by a separate surface, and that these deflecting surfaces can be considered to inherently be plural deflecting surfaces. Alternatively, the Examiner says it would have been *prima facie* obvious to construct the deflecting surfaces of these prior art gas distributors from a plurality of assembled parts (citing *In re Lockhart*, 90 USPQ 214).

Applicants respectfully traverse this rejection. Again, and contrary to what the Examiner suggests, Choi et al does not teach "directing the gas stream exiting each gas outlet in at least a generally centripetal path" as in Claims 1 and 5. Instead, in Choi et al and as especially shown in FIG. 4, the inert gas stream is sprayed outwardly from nozzles 31 "lowering a wall of inert gas along the inner wall of the shield 25." Col. 3, lines 39-42. Again, Choi et al in no way teaches or suggests that its gas stream is directed in a generally centripetal path, as in Claims 1 and 5.

For the foregoing reasons, Applicants submit that Claims 1 and 5 are novel and unobvious over Choi.

C. Response to Rejection of Claims 1 and 5 under 35 USC 102(e) as Anticipated by Turlot et al

At page 4 of the Office Action, the Examiner has rejected Claims 1 and 5 under 35 USC 102(b) as anticipated by U.S. Patent 6,502,530 (Turlot et al):

The Examiner says that Turlot et al (referring to Fig. 2 and col. 7, line 40 to col. 8, line 12) discloses a gas distributor comprising a gas head with a plurality of gas outlets spaced along a peripheral surface, and a gas deflecting means proximate to the gas outlets, such that the gas exiting the gas outlets is inherently deflected in a generally centripetal path. In Turlot et al's gas distributor, the Examiner says that gas from each outlet is deflected by a separate surface, and these deflecting surfaces can be considered to inherently

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be plural deflecting surfaces. Alternatively, the Examiner says it would have been *prima facie* obvious to construct the deflecting surfaces of these prior art gas distributors from a plurality of assembled parts (citing *In re Lockhart*, 90 USPQ 214).

Applicants respectfully traverse this rejection. Again, and contrary to what the Examiner suggests, Turlot et al does not teach "directing the gas stream exiting each gas outlet in at least a generally centripetal path" as in Claims 1 and 5. Instead, in Turlot et al and as especially shown in FIG. 2, the gas stream simply exits through gas feed openings 44 in no particular disclosed path. Again, Turlot et al in no way teaches or suggests that its gas stream is directed in a generally centripetal path, as in Claims 1 and 5.

For the foregoing reasons, Applicants submit that Claims 1 and 5 are novel and unobvious over Turlot et al.

D. Response to Rejection of Claims 6-8 under 35 USC 103(a) as Unpatentable over Sandys, Hauser et al, Mahawili, Choi et al or Turlot et al

At page 4 of the Office Action, the Examiner has rejected Claims 6-8 under 35 USC 103(a) as unpatentable over Sandys, Hauser et al, Mahawili, Choi et al or Turlot et al:

In the gas distributor of each of these references, the Examiner says that the specific number of gas distributor outlet holes as recited in Claims 6-8 would have been *prima facie* obvious to one skilled in the art in the absence of a showing of unexpected results.

Applicants respectfully traverse this rejection. Whether Sandys, Hauser et al, Mahawili, Choi et al or Turlot et al teach or suggest the specified number of gas outlet holes along the peripheral surface of the gas distributor of Claims 6-8 is beside the point. As pointed out previously by Applicants, none of these references disclose or suggest directing the gas stream exiting these outlet holes in a generally centripetal path as required by these Claims.

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For the foregoing reasons, Applicants submit that Claims 6-8 are unobvious over Sandys, Hauser et al, Mahawili, Choi et al or Turlot et al, individually or in combination.

E. Response to Objection to Claims 3-4

At page 4 of the Office Action, the Examiner has objected to Claims 3-4 as being dependent upon a rejected base claim, but says these Claims would be allowable if rewritten in independent form to include all limitations of the base claim and any intervening claims.

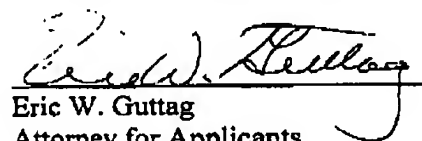
For reasons previously presented, Applicants submit that base Claim 1 should be allowable. Accordingly, Applicants respectfully request that the Examiner withdraw his objection to Claims 3-4.

F. Conclusion

In conclusion, Applicants submit that Claims 1-16 are novel and unobvious over the prior art relied on by the Examiner. Accordingly, Applicants respectfully request that Claims 1-16 be allowed to issue in the above application.

Respectfully submitted,

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